

Automatic Outboard Flushing System Version 2.0



Shown: 4 engine setup

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System Overview and Technical Specifications

- | | | | |
|---|---|----|--|
| 1 | 3/4" hose barb set for water inlet | 6 | Connection for Remote Switch |
| 2 | 1/2" hose barb set for water outlet of engine | 7 | Power input |
| 3 | 3/8" hose barb set for water outlet of engine | 8 | Inlet Hose kit - connects to water inlet |
| 4 | Connection for Inlet Hose Kit | 9 | Capped fitting of the hose kit |
| 5 | Start button and LED status indicator | 10 | Connects to water inlet on system |



Technical Specifications

Voltage	12V	
Max. Amp. Draw	3A / 12V 1.5A / 24V	
Water Inlet Hose	3/4" hose barb	
Water Outlet To Engine	3/8" hose barb, or 1/2" hose barb for engines over 300HP	
Dimensions	A	8.13" / 206 mm
	B	5.7" / 145 mm
	C	5.58" / 142 mm

Basic Features

- 12 volt
- 1, 2, 3, or 4 Engine setup
- Start button with LED status indicator
- 3' Inlet Hose Kit

Optional Features

- Remote Switch Kit with Start button/LED status indicator. Available in lengths of 3, 6, 9, 12, 15, and 18 feet
- Inlet Hose Kit. Available in hose lengths of 1, 2, 3, 6, and 9 feet



1 Choose your system

A basic system to flush all outboard motors. Includes 3 ft inlet hose kit.

Part #	Automatic Outboard Flushing System
35-3861-01	1 Engine Setup
35-3862-01	2 Engine Setup
35-3863-01	3 Engine Setup
35-3864-01	4 Engine Setup



2 Choose Remote Switch

Optional: To mount a remote switch in an area easier to access than the system itself.

Part #	Remote Switch Kit
35-3954-01	3' harness assembly
35-3954-02	6' harness assembly
35-3954-03	9' harness assembly
35-3954-04	12' harness assembly
35-3954-05	15' harness assembly
35-3954-06	18' harness assembly



3 Choose Inlet Hose

Optional: To mount a remote hose connection elsewhere or provide a comfortable reach to connect hose.

Part #	Inlet Hose Kit
35-3951-02	2' hose length
35-3951-03	3' hose length
35-3951-04	6' hose length
35-3951-05	9' hose length



4 Choose Deck Kit

Optional: Can be used with Inlet Hose Kit. Includes angled connector.

Part #	Deck Kit
35-3952-01	With 3/4" hose barb straight fitting
35-3952-02	With 3/4" hose barb 90-degree elbow fitting



5 Choose Faceplate

Optional: To mount a Deck Kit only, or Deck Kit and Remote Switch.

Part #	Faceplate
35-3952-07	For Deck Kit only
35-3952-03	For Deck Kit and Remote Switch
35-3952-04	For Deck Kit and Remote Switch 90°
35-3952-05	For Deck Kit and Remote Switch 180°
35-3952-06	For Deck Fitting and Remote Switch 270°

Mounting

- Mounting holes: Ø 3/16"
- Orientation: Any direction on a flat surface.

Electrical

- Installation must include protection with 5A fuse or breaker (provided by installer).
- **Only connect black (-) and red (+) wires to same respective color. Damage can occur to the system if these wires are crossed.**
- **Installation of unit should only be performed by qualified electrician who have thoroughly read and understands the installation instructions covered in this manual and adhere to ABYC requirements.**
- **To avoid the risk of harm or injury, make sure that the power supply is disconnected. Ensure that the power supply is at zero volts with a multimeter before making any electrical connections.**
- Be sure that the power source available matches the power requirements.

Installing Hose Barbs

The system will include water inlet options:

- 3/4" straight hose barb
- 3/4" elbow hose barb

Included water outlets for engines below 300 HP:

- Set of 3/8" straight hose barb
- Set of 3/8" elbow hose barb

Included water outlet for engines 300 HP and above:

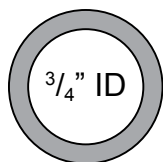
- Set of 1/2" straight hose barb
- Set of 1/2" elbow hose barb

Install the hose barbs hand-tight (40 in-lb) and use one of the following:

- Teflon tape
- Plastic thread sealant

Connection to Engines

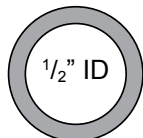
Using hose smaller than the required inner diameter is not recommended.



*3/4" inner diameter hose is required for water **inlet**.*



*3/8" inner diameter hose is required for water **outlet** (to engines). Reinforced hose is recommended.*



*For engines over 300HP, it is best to use 1/2" inner diameter hose is required for water **outlet** (to engines). Reinforced hose is recommended.*

Choose fittings which fit the appropriate hose size. The hose will run from the system, through the outboard loom, and to each engine. Locate the flushing port on the engine, split the line, and connect the hose. Or, choose to install a tee.

Inlet Hose Kit - *Important: Sealed Water Inlet*

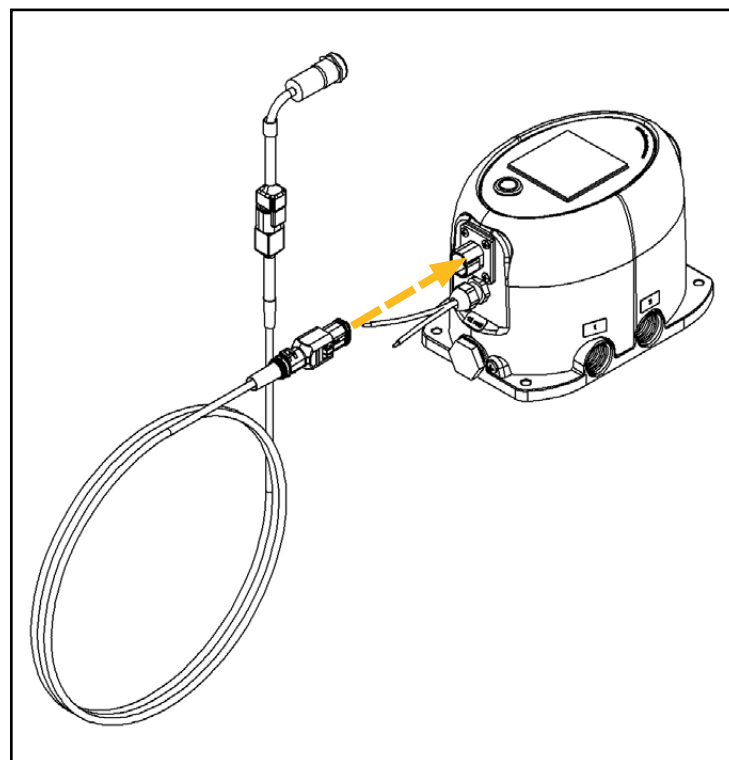
Incorporate a sealed cap for the water inlet to block the possibility of any backflow. Choose one of the following ways:

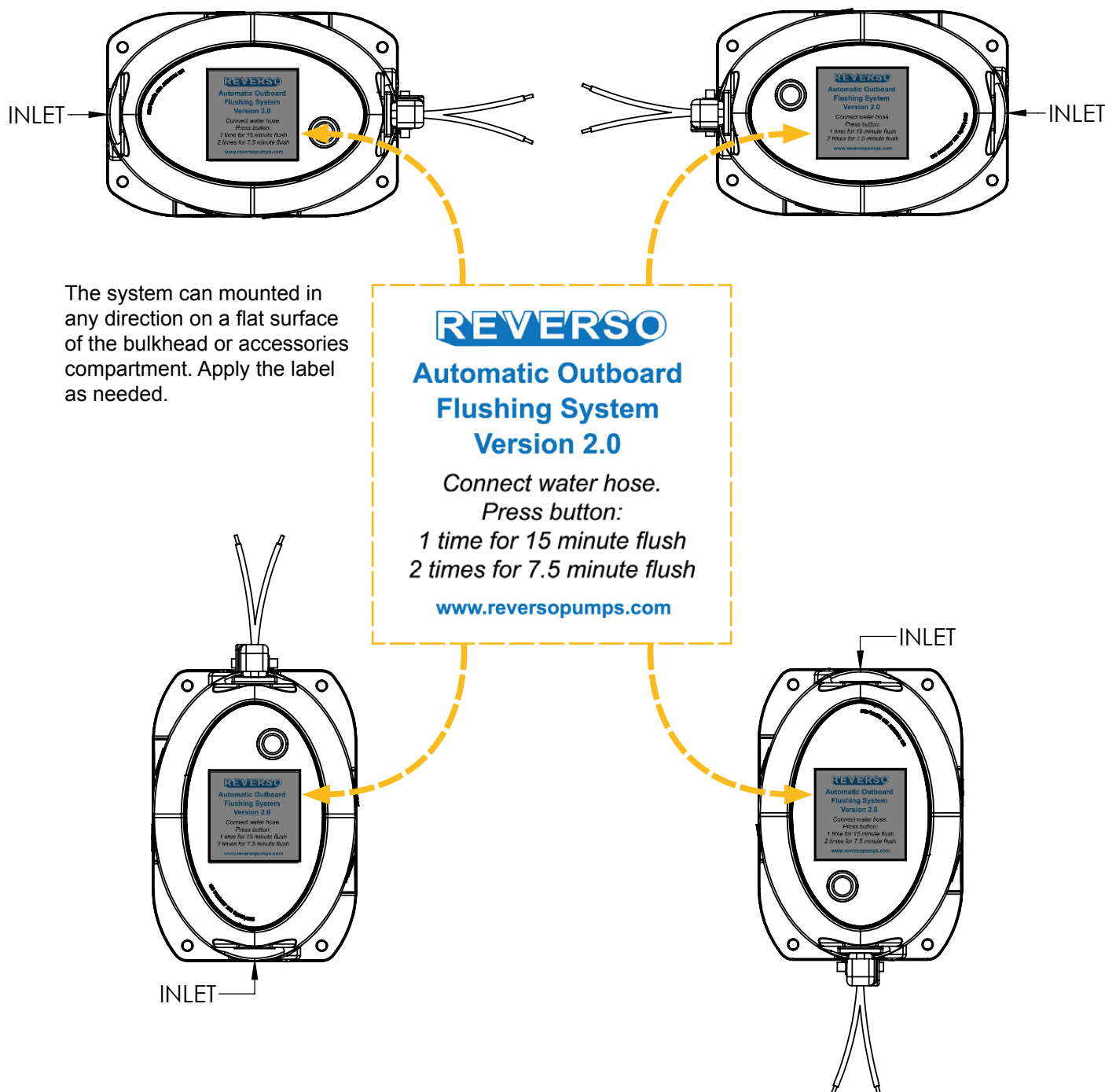
- Install the Inlet Hose Kit which includes a cap on the hose end already (shown below).
- If the Inlet Hose Kit is not used, an alternative can be a bulkhead cap, quick disconnect, or other sealed fitting provided by the installer.



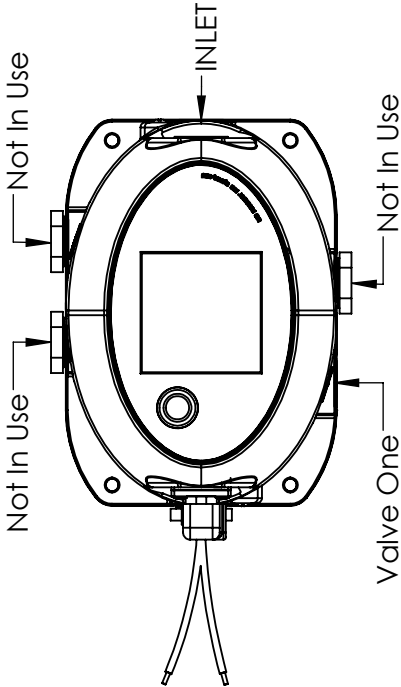
Remote Switch Kit

Remove the dust cover and connect the remote switch kit (Deutsch connector).

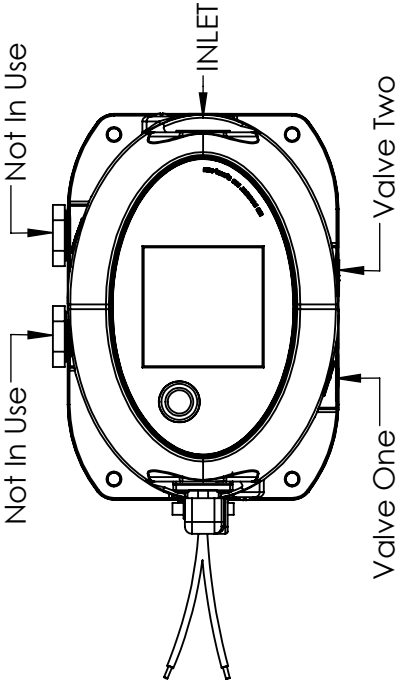




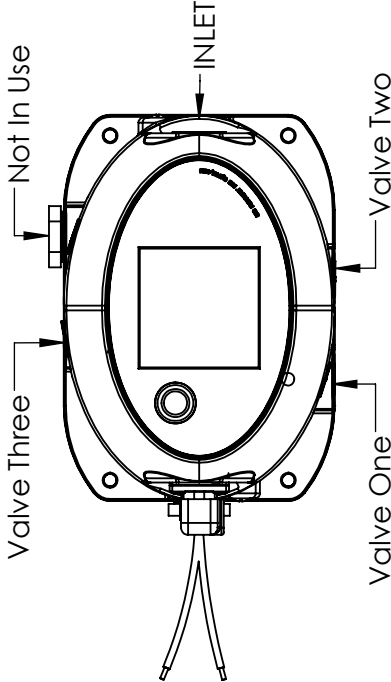
OFS V2.0
Single Engine Setup



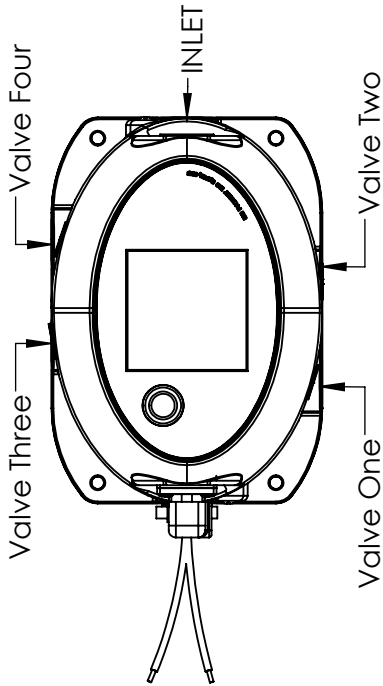
OFS V2.0
Two Engine Setup



OFS V2.0
Three Engine Setup



OFS V2.0
Four Engine Setup



REVISIONS			
ZONE	REV.	DESCRIPTION	DATE
	A	Drawing was made to show customer the valve layout	10/6/2017

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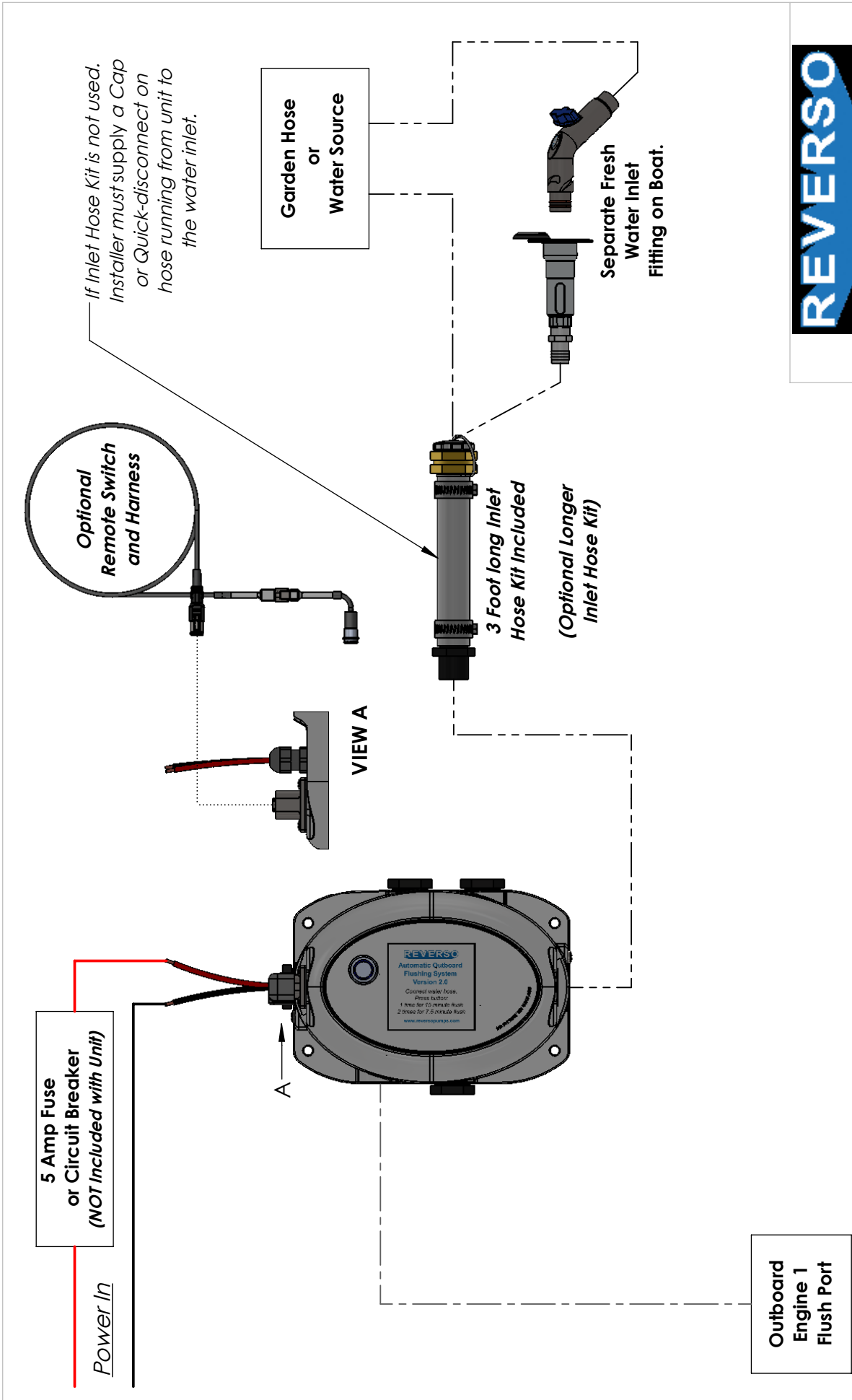
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TWO PLACE DECIMAL $\pm .01$
THREE PLACE DECIMAL $\pm .005$

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DRAWN
CHECKED
ENG APPR.
MFG APPR.
Q.A.
DO NOT SCALE DRAWING

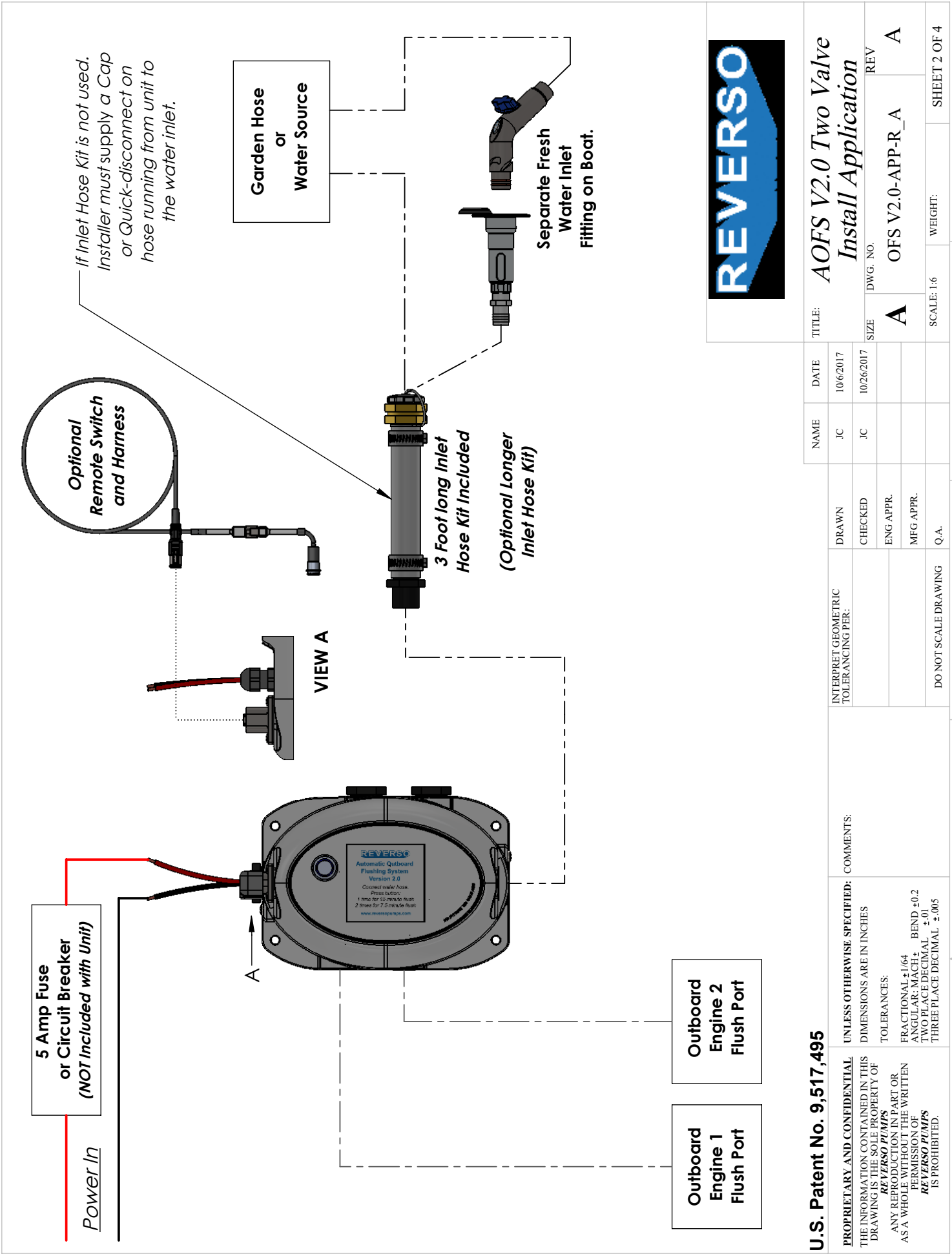
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Installation Diagram: 1 Engine Setup

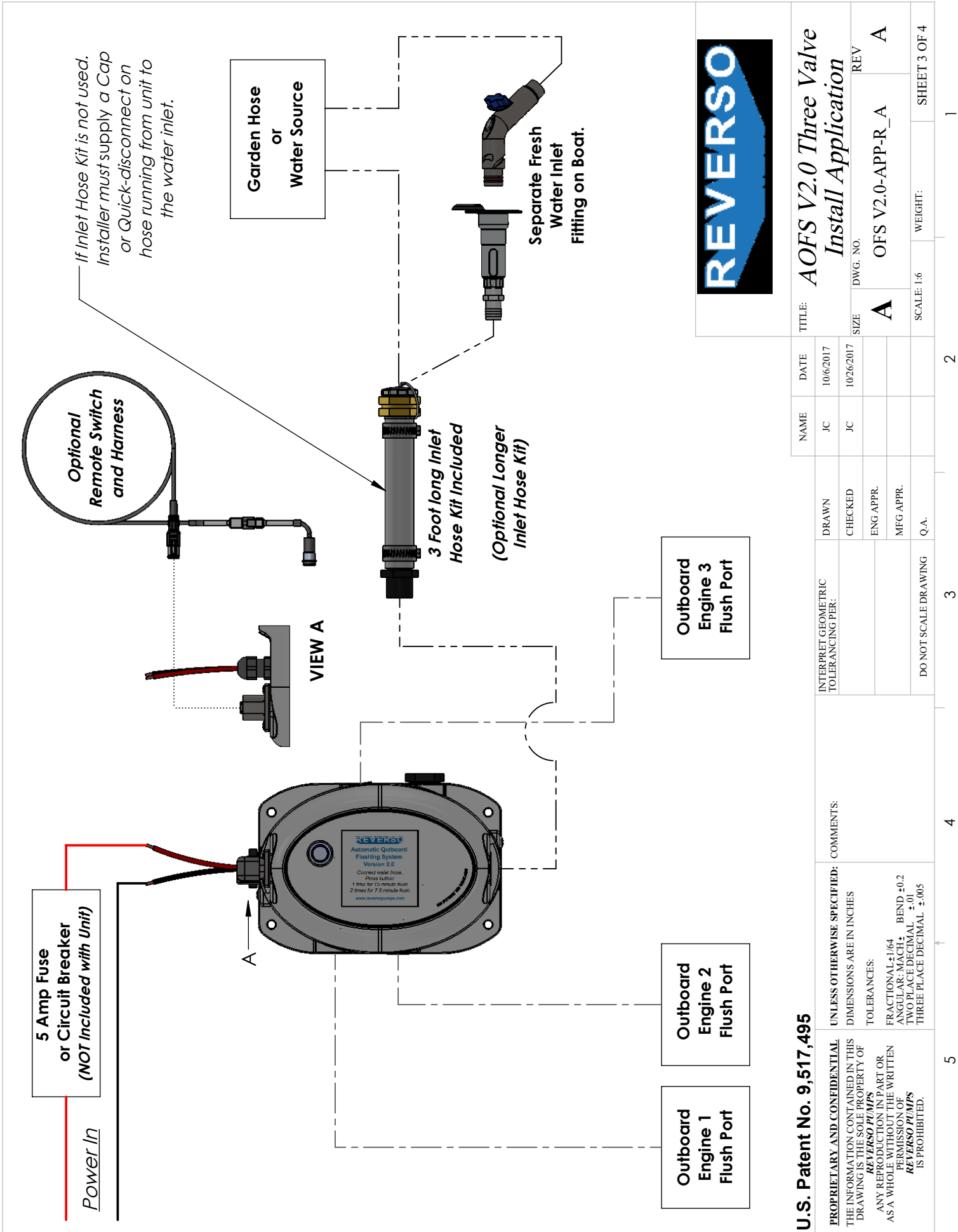


U.S. Patent No. 9,517,495

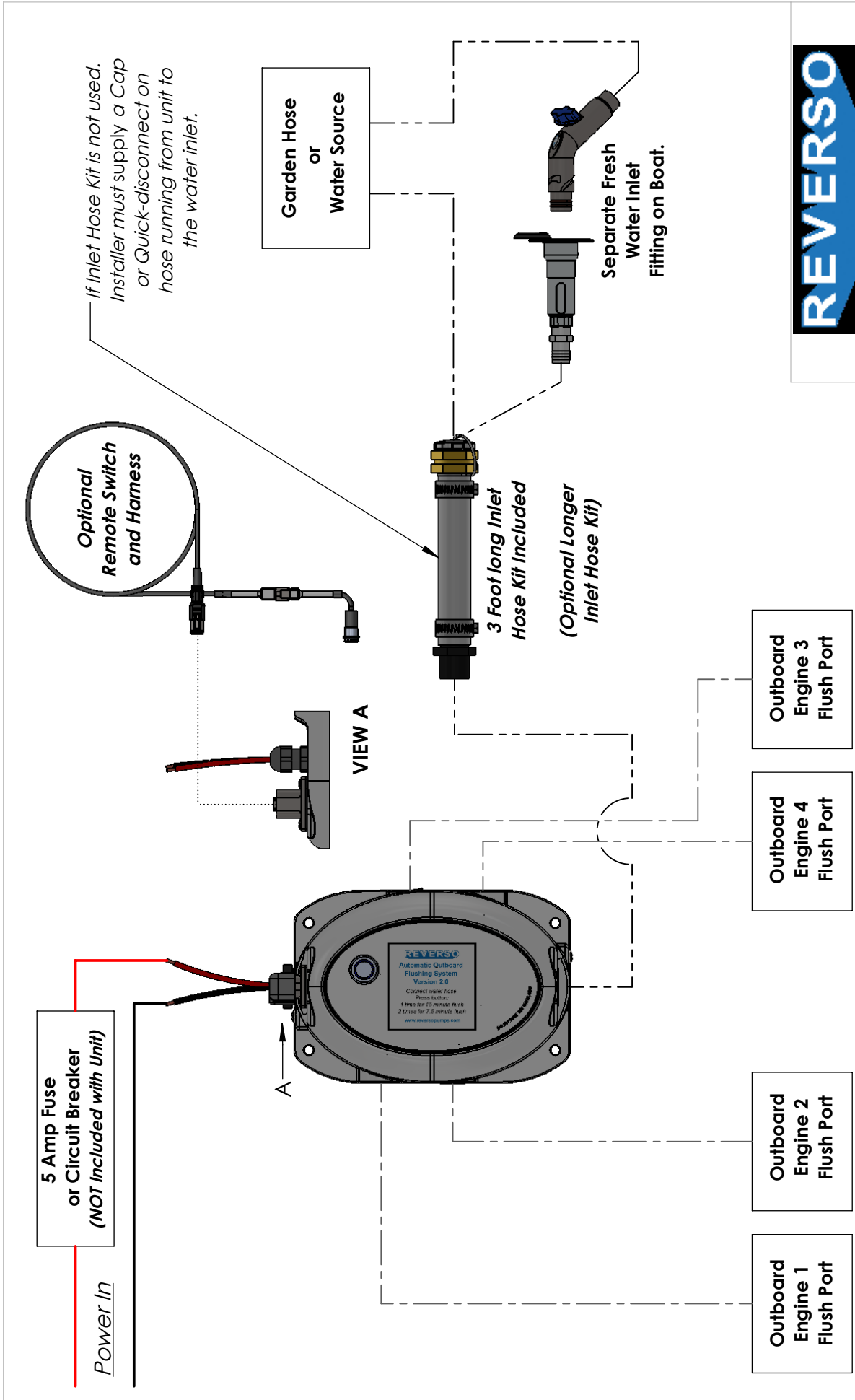
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TITLE: AOFS V2.0 Single Valve Install Application		SIZE: A	DWG. NO. OFS V2.0-APP-R_A	REV: A	SCALE: 1:6		WEIGHT:		SHEET 1 OF 4		1	



Installation Diagram: 3 Engine Setup

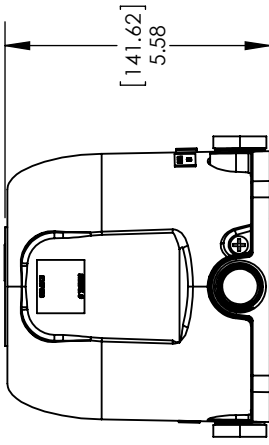
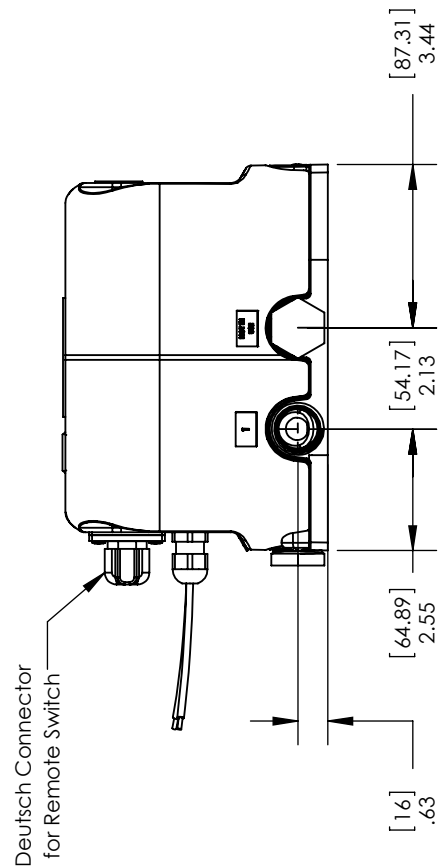
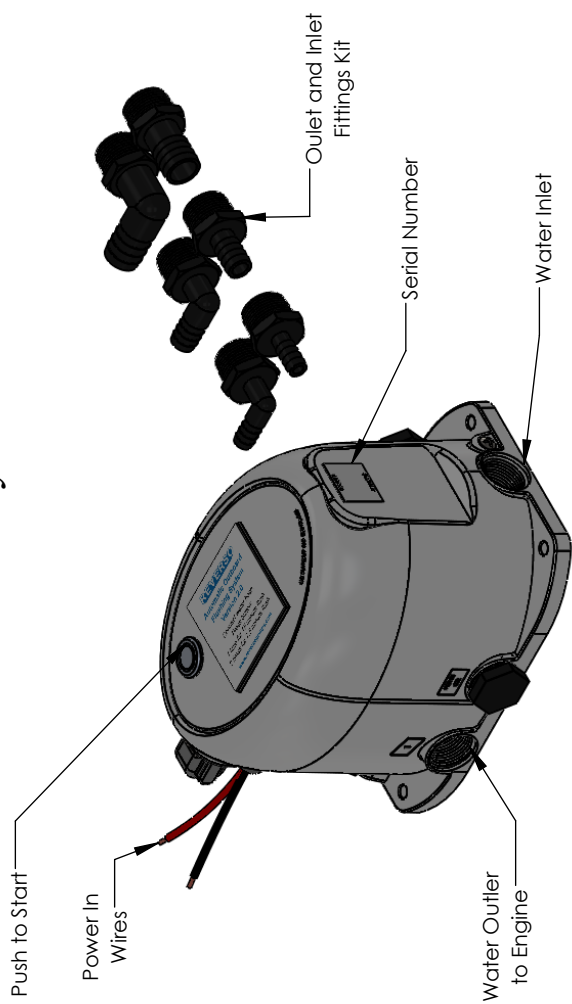
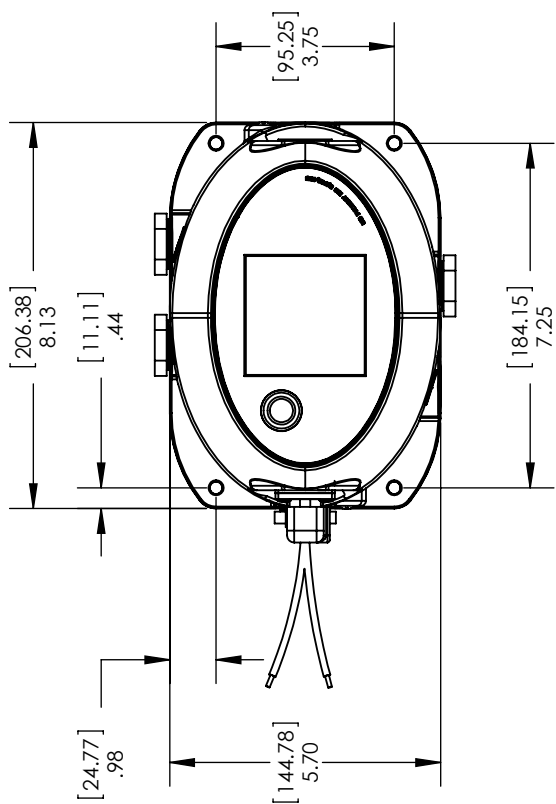


Installation Diagram: 4 Engine Setup



U.S. Patent No. 9,517,495

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Q.A.		
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SIZE	DWG. NO.	REV
A	OF S V2.0-APP-R_A	A
SCALE: 1:6	WEIGHT:	SHEET 4 OF 4



U.S. Patent No. 9,517,495

TECHNICAL SPECIFICATIONS

Port Size - 3/4" FNPT (Manifold Base)
Inlet: 3/4" Hose Barb
Outlet: 3/8" Hose Barb / 1/2" Hose Barb
Weight - 3lbs. / 1.36kg.
Power - 12 Volt @ 3 Amp

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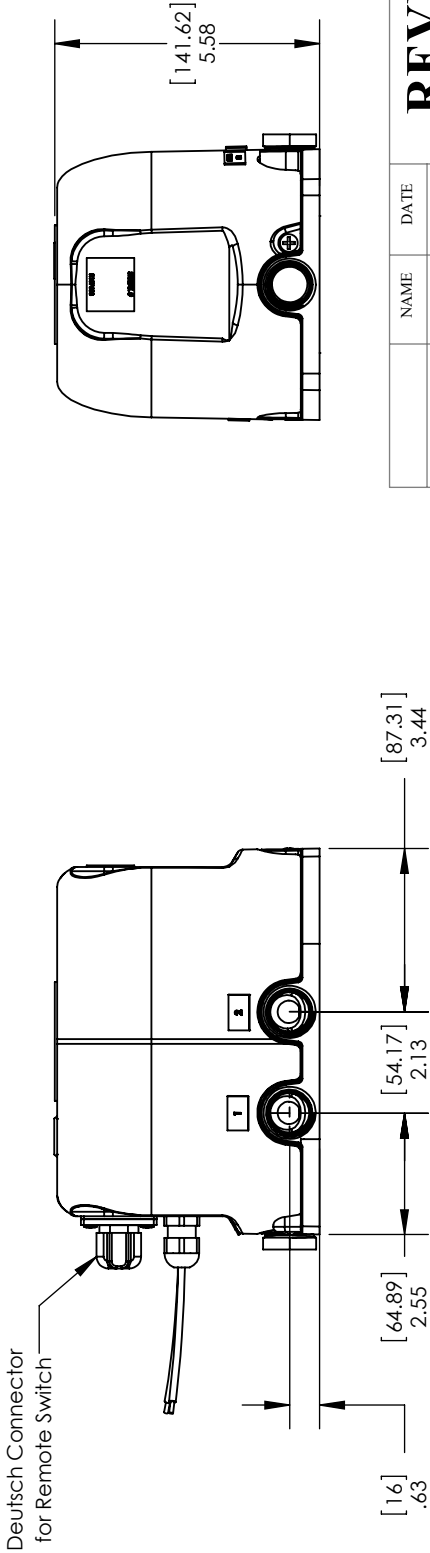
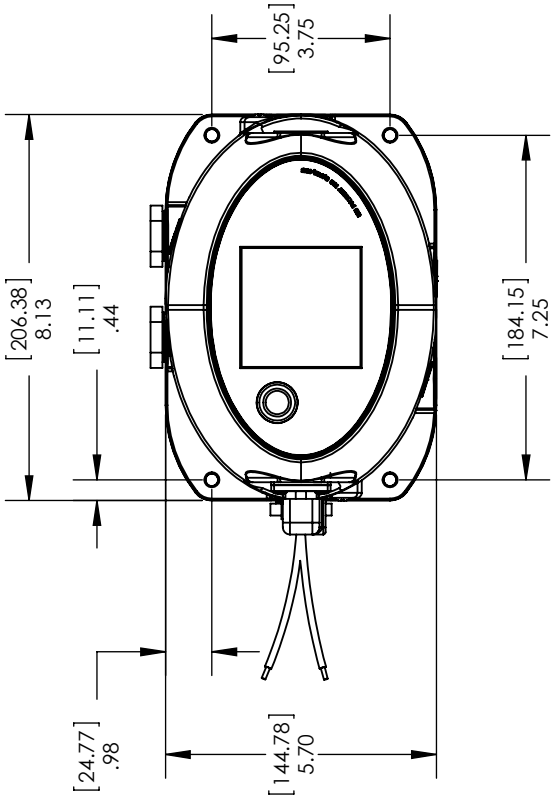
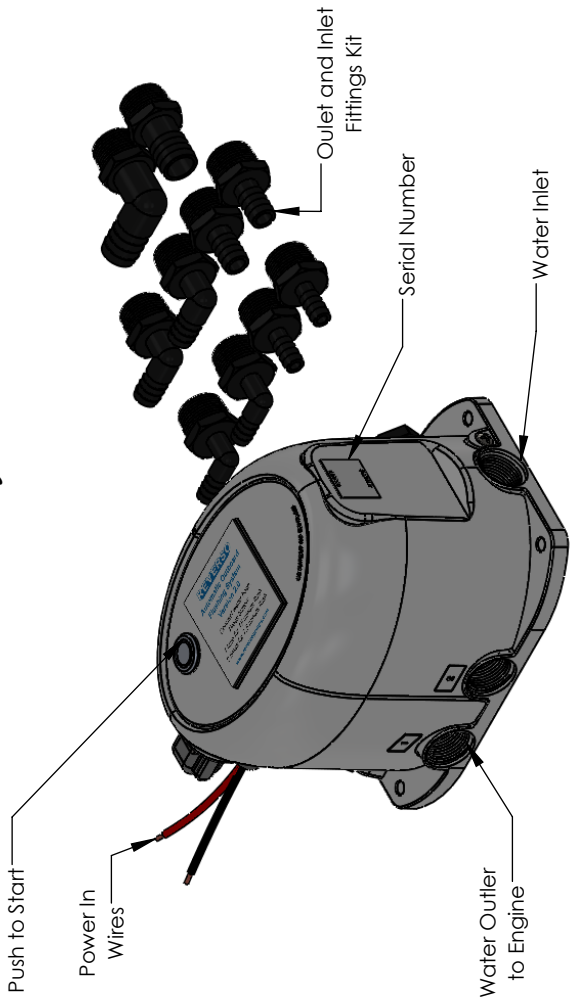
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DO NOT SCALE DRAWING

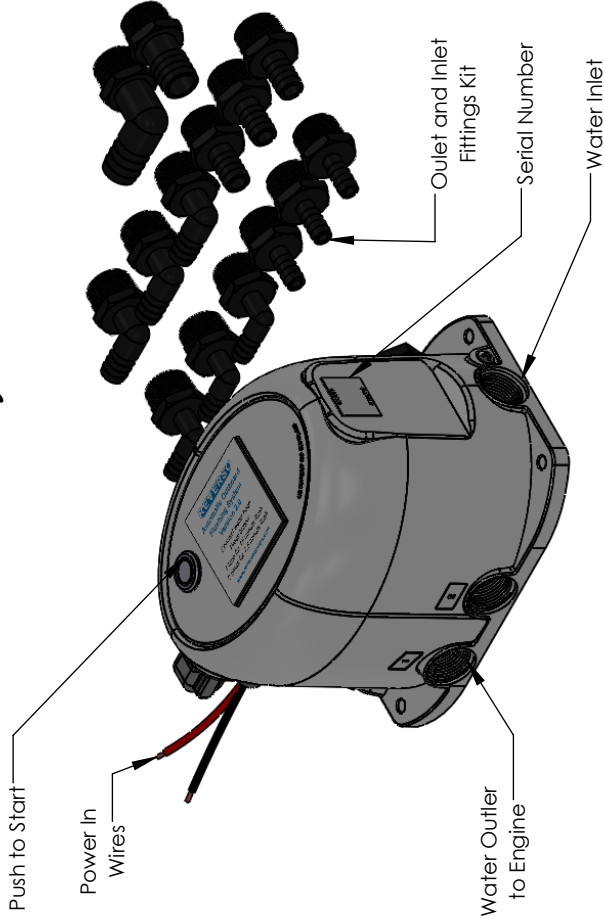
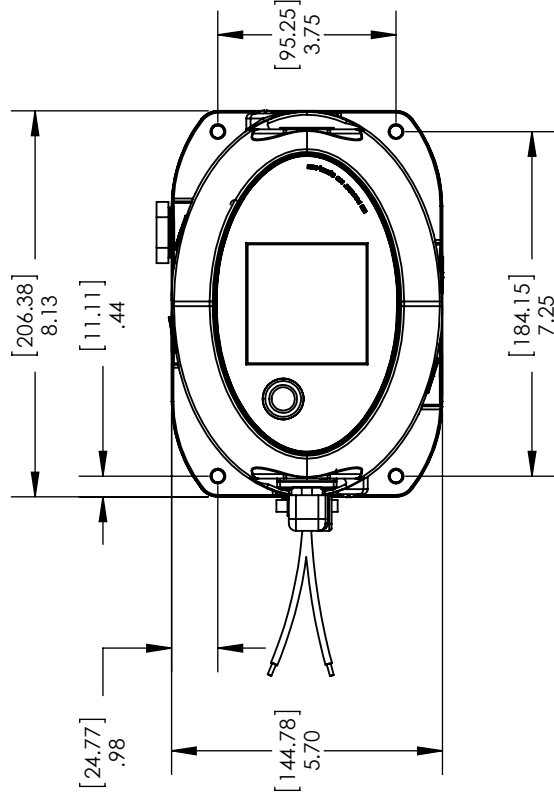
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MFG APPR.				
Q.A.				
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Part #: 35-3862-01

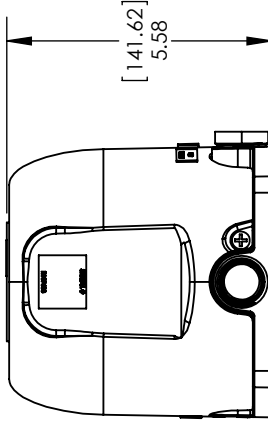
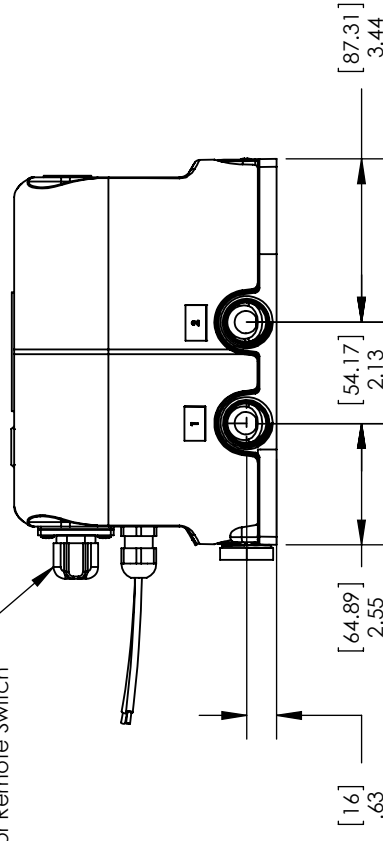
All Dimensions for Reference Only
Secondary Dimensions in Centimeters



U.S. Patent No. 9,517,495		REVERSO PUMPS		TITLE:	
TECHNICAL SPECIFICATIONS		DRAWN	NAME	DATE	OFS-2-12_V2 Outboard Flushing System - Two Engine Setup - Version 2.0 - 12 Volt
Port Size - 3/4" FNPT (Manifold Base) Inlet: 3/4" Hose Barb Outlet: 3/8" Hose Barb / 1/2" Hose Barb		CHECKED	JC	10/6/2017	
Weight - 3lbs. / 1.36kg.		ENG APPR.	JC		
Power - 12 Volt @ 3 Amp		MFG APPR.			
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				REV	
				A	
				AOFS V2.0 ER_R_A	
				A	
				SCALE: 1:4	
				WEIGHT:	
				SHEET 3 OF 8	



Deutsch Connector
for Remote Switch



U.S. Patent No. 9,517,495

TECHNICAL SPECIFICATIONS

Port Size - 3/4" FNPT (Manifold Base)
Inlet: 3/4" Hose Barb
Outlet: 3/8" Hose Barb / 1/2" Hose Barb

Weight - 3lbs. / 1.36kg.

Power - 12 Volt @ 3 Amp

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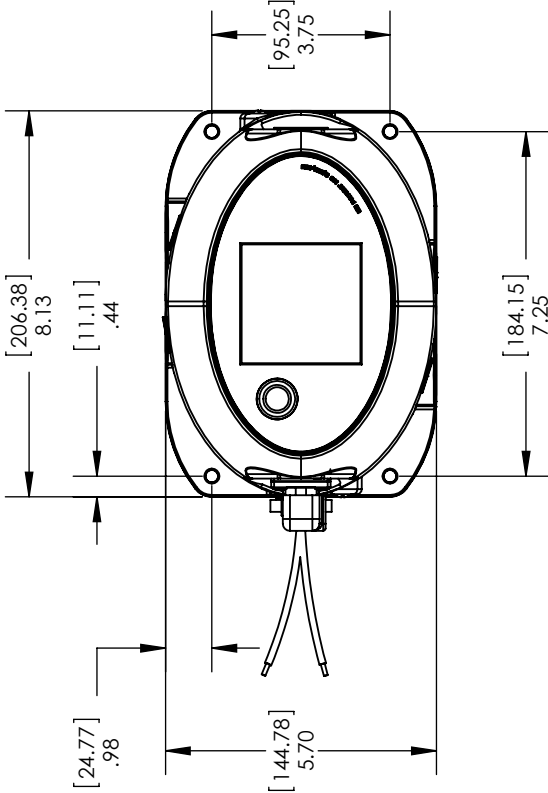
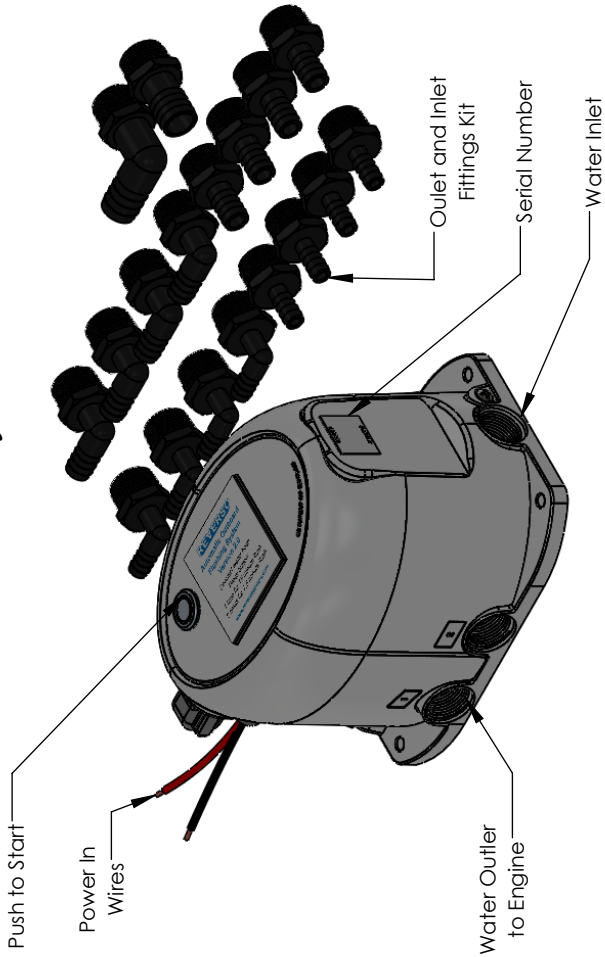
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THREE PLACE DECIMAL $\pm .005$
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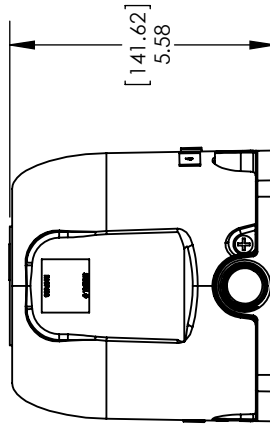
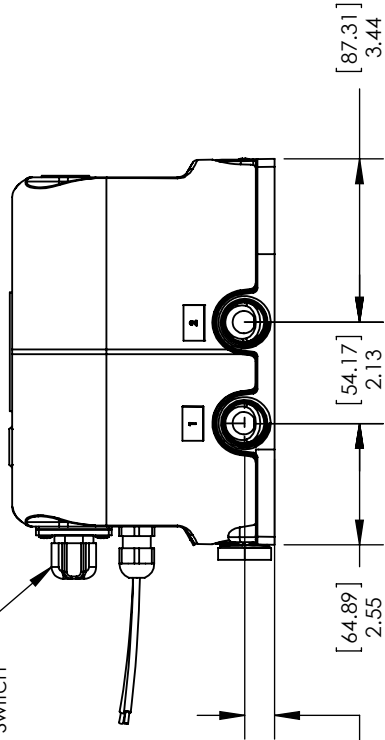
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MFG APPR.				Setup - Version 2.0 - 12 Volt	
Q.A.				SIZE DWG. NO. REV	
COMMENTS:				A AOFS V2.0 ER_R_A A	
				SCALE: 1:4 WEIGHT: SHEET 5 OF 8	

Part #: 35-3864-01

All Dimensions for Reference Only
Secondary Dimensions in Centimeters



Deutsch Connector for Remote Switch



U.S. Patent No. 9,517,495

TECHNICAL SPECIFICATIONS

Port Size - 3/4" FNPT (Manifold Base)
Inlet: 3/4" Hose Barb
Outlet: 3/8" Hose Barb / 1/2" Hose Barb
Weight - 3lbs. / 1.36kg.
Power - 12 Volt @ 3 Amp

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THREE PLACE DECIMAL +.005
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CHECKED	JC	JC	10/6/2017
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MFG APPR.			
Q.A.			
COMMENTS:			
TITLE:			
OFS-4-12_V2 Outboard Flushing System - Four Engine Setup - Version 2.0 - 12 Volt			
SIZE	DWG. NO.	REV	
A	AOFS V2.0 ER_R_A	A	
SCALE: 1:4	WEIGHT:	SHEET 7 OF 8	

Operation

1. Connect water hose to unit.
2. Turn on water. The unit will not work without water pressure.
3. To activate:
 - a. Push start button once - **15 minute** cycle per engine
 1. LED is solid blue during operation
 2. At 14 minute and 55 seconds, the next engine will engage to overlap for 5 seconds.
 - b. Push start button twice - **7.5 minute** cycle per engine
 1. LED is blinking blue during operation
 2. At 7 minute and 25 seconds, the next engine will engage to overlap for 5 seconds.
4. The unit will automatically cycle each engine and shuts off once complete.
5. Disconnect water hose.

To Stop Operation:

1. Stopping in the middle of a cycle will stop program. The system will reset back to engine
 - a. If running the **15 minute** cycle per engine, then press the button **twice** to stop.
 - b. If running the **7.5 minute** cycle per engine, then press the button **once** to stop.
2. The system can be activated again by following Operation instructions.

Loss of Water Pressure During Operation

The LED will turn solid red.

- If water pressure is restored within 5 minutes, the system will resume operation from the point of pressure loss.
- If water pressure is not restored within 5 minutes, the system will reset. Press the start button to begin the cycles again, starting at the first engine.

LED Indicator

Solid or Blinking Blue	System is in operation
Blinking Red	The number of blinks indicates the engine that did not flush.
Solid Red	Low or no water pressure and system will not activate until increase in water pressure.

Troubleshooting

- Confirm correct voltage is powering the unit.
- If connected to a battery, check that it is fully charged.
- Ensure there is enough water pressure to the system.
- Observe LED indicator. See Operation instructions for details.
- Ensure all connections have been properly tightened
- Confirm the correct fittings are installed for hose and unit.